REMARKS

Entry of the amendment instructions above and favorable reconsideration and allowance of this application are requested.

1. Discussion of Claim Amendments

By way of the amendment instructions above, independent claim 1 has been amended so as to clarify that the thermoplastic elastomer composition "consists of" the following components:

- a thermoplastic polyolefin,
- a dynamically vulcanized elastomer consisting of monomer units of ethylene, an a-olefin and optionally one or more non-conjugated polyenes and oil,
- 0.5 to 3.0 parts per 100 parts of elastomer of a phenolic resin vulcanizing agent, and
- optionally at least one additive selected from the group consisting of fillers, antioxidants, stabilizers, antistatic agents, lubricants, foaming agents, pigments and flame retardants.

Claim 12 has been canceled and claims 20 and 21 are new. In this regard, support for the amount of phenolic resin vulcanizing agent as defined by the amended version of claim 1 and new claims 20-21 can be found at page 5, lines 20-21 of the originally filed specification.

Support for the optional additives that may be present in the claimed composition as defined by claim 1 can be found at page 4, lines 24-28 of the originally filed specification.

Therefore, following entry of this amendment, claims 1-10 and 13-21 will remain pending herein for consideration.

A minor typographical error recently noted in the specification at page 3, line 12 has been corrected.

2. Response to Art-Based Rejections

A. Rejections Based on Ouhadi

Prior claims 1-10 and 12-17 attracted a rejection under 35 USC §102(b) as allegedly anticipated by or, in the alternative, under 35 USC §103(a) as obvious over Ouhadi (EP 757 077), with extrinsic evidence being provided by Jourdain et al (USP 5,571,883), Hazelton et al (USP 4,607,074) and Thompson (US 2006/0216019). In addition, claims 18-19 were separately rejected as allegedly obvious under 35 USC §103(a) over Ouhadi.

Applicants suggest that the above-noted amendments to the claims overcome the rejections advanced based on Ohadi. In this regard, the Examiner states that Entry 1 of Table 1 of Ouhadi teaches a composition comprising 26.82 wt% of V3666 EPDM (containing 42.9 wt% extender oil and 57.1 wt% EPDM), 7.77 wt% of RP 210 polypropylene resin, and 35.17 wt% of Flexon 876 processing oil. The composition further contains 14.30 wt% Cariflex 1220 butadiene rubber and some additives in minor quantities.

The Examiner further states that the total amount of oil is 11.5 + 35.17 = 46.67 wt% and that the ratio of oil to elastomer is 46.71/11.5 = 3.05. The latter calculation with respect to the ratio of oil to elastomer is however incorrect. Specifically, in making such a calculation the Examiner has overlooked the amount of Cariflex 1220 which is also an elastomer. Thus calculating the oil/elastomer ratio (see presently pending claim 1), would lead to 46.67 wt%/(0.571 * 26.82 wt% + 14.30 wt%) = **1.58**.

Similar calculations for the other runs disclosed by Ouhadi lead to the following oil/elastomer ratios:

runs 2-4, 6 and, 9: oil/elastomer ratio = 1.58;

run 5: oil/elastomer ratio = 1.34;

run 7: oil/elastomer ratio = 0.65;

run 8: oil/elastomer ratio = 0.45; and

runs 10 and 11: oil/elastomer ratio = 1.78.

Thus none of the compositions disclosed by Ouhadi satisfies the criterion of presently pending claim 1 that the oil/elastomer ratio should be ***at least 2.1/1*** for a composition which **consists of** the following components:

- a thermoplastic polyolefin,
- a dynamically vulcanized elastomer consisting of monomer units of ethylene, an a-olefin and optionally one or more non-conjugated polyenes and oil,
- 0.5 to 3.0 parts per 100 parts of elastomer of a phenolic resin vulcanizing agent, and
- optionally at least one additive selected from the group consisting of fillers, antioxidants, stabilizers, antistatic agents, lubricants, foaming agents, pigments and flame retardants.

Therefore claim 1 and all claims dependent therefrom are novel with respect to the Ouhadi patent.

The calculations above are also instructive as to the ***un***obviousness of the presently claimed invention in light of Ouhadi. Specifically, the calculations above demonstrate that Ouhadi actually teaches away from the relatively high oil and low

hardness compositions as claimed in the present application which do not include any styrenic elastomer therein.

As such, withdrawal of the rejection advanced against the pending claims under 35 USC §§102(b) and/or 103(a) is in order.

B. Rejection Based on Hamanka et al

Claims 1-10 and 13-19 attracted a rejection under 35 USC §102(b) as allegedly anticipated by or, in the alternative, under 35 USC §103(a) as obvious over Hamanka et al (USP 5,187,224), with extrinsic evidence being furnished by Hazelton et al (USP 4,607,074) and Thompson (US 2006/0216019). Applicants respectfully submit that the amendments made to pending claim 1 renders such claim and all claims dependent therefrom patentable.

In this regard, the Examiner states that entry 6 of Table 1 of Hamanaka et al. teaches a composition prepared by partially crosslinking 69 parts by weight (pbw) of EPDM, 69 pbw of oil 17 pbw of propylene-butene copolymer, and compounding the crosslinked product with 100 pbw of SEBS elastomer, 15 pbw of propylene-ethylene copolymer and 250 pbw of oil. In his calculation of the oil/elastomer ratio, the Examiner again has overlooked the presence of a second elastomer, namely SEBS.

The correct calculation of the ratio would thus be: (69 + 250 [total oil])/(69 + 100 [total elastomer]) = **1.89**. Similar calculations for the other entries in Table 1 lead to ratios of (1) 1.23; (2) 1.33: (3) 1.23; (4)1.33; and (5) 1.63, respectively. As such, none of the compositions disclosed by Hamanaka et al satisfies the criterion of present claim 1 that the oil/elastomer ratio should be at least 2.1/1 for a composition which **consists of** the following components:

- a thermoplastic polyolefin,

- a dynamically vulcanized elastomer consisting of monomer units of ethylene, an a-olefin and optionally one or more non-conjugated polyenes and oil,
- 0.5 to 3.0 parts per 100 parts of elastomer of a phenolic resin vulcanizing agent, and
- optionally at least one additive selected from the group consisting of fillers, antioxidants, stabilizers, antistatic agents, lubricants, foaming agents, pigments and flame retardants.

Therefore presently pending claim 1 is novel with respect to the Hamanaka et al.

Moreover, as was discussed already above, none of the applied references of record teaches an oil/elastomer ratio of at least 2.1/1 for a composition consisting of the components as recited in pending claim 1. In addition to this distinction, Hamanaka teaches that increasing the amount of softening agent (oil) causes bleeding of the softening agent and furthermore, increases the tackiness of the surface of molded products (Hamanaka et al, column 1 lines 45-50). Therefore, none of the cited references give the ordinarily skilled person any incentive to use an oil/elastomer ratio near or even beyond 2.1/1 (or 2.5 as in claim 16 or 3/1 as in claim 17). In fact, Hamanaka et al teaches away from such a measure.

Thus, the presently claimed invention is not obvious over any of the cited documents, including Hamanaka et al, either alone or in combination with one another.

C. Rejection Based on Tanaka

Claims 1-10 and 12-19 attracted a rejection under 35 USC §102(b) as allegedly anticipated by, or under 35 USC §103(a) as allegedly obvious over Tanaka et al (USP 5,349,005). Applicants suggest that the amendments above render moot this rejection also.

In this regard, the Examiner observes that Comparative Example A9 in Table A3-1 of Tanaka et al teaches a dynamically vulcanized composition comprising 100 parts by weight (pw) of EPDM (ethylidene norbornene), 40 pw of crystalline ethylene-propylene block copolymer, 15 pw of low molecular weight polypropylene homopolymer, 400 pw of a paraffinic mineral oil and 5 pw of phenolic resin curing agent. The composition of Tanaka et al exhibits a Shore A hardness of 21.

Thus, based on the amount of EPDM, the phenolic resin curing agent is present in an amount of 5 pw. As such, Tanaka et al cannot anticipate or render obvious a composition as defined in claim 1 which consists, *inter alia*, of 0.5 to 3 parts by weight of a phenolic resin vulcanizing agent based on 100 parts of the elastomer.

Withdrawal of the rejection advanced under 35 USC §§102(b) or 103(a) is therefore in order.

D. Rejection Based on Dozeman

Claims 1-10 and 13-16 one the one hand and claims 1-10, 14 and 15 on the other hand attracted separate rejections under 35 USC §103(a) as allegedly obvious over Dozeman et al (US 2005/0215717). Applicants submit that all pending claims herein are patentably unobvious over Dozeman et al.

The Examiner seems to assert, based on the disclosure of Dozeman et al, that an increase in oil affords a softer material. The Examiner therefore concludes that the choice of a particular ratio of oil to elastomer, such as the amount defined in the pending claims herein, is a matter of routine experimentation well within the skill of those in the art. Applicants respectfully disagree with such a conclusion.

Specifically, applicants note that simply increasing the amount of oil in Dozeman et al would ***not*** automatically provide a product having the required granulate properties as defined in pending claim 1. The amount of cure is also very important. That is, too

little cure will yield a granulate that has a sticky behavior, whereas too much cure yields a granulate that is too course and thus cannot be process further downstream (e.g., by a compounder).

The examples in the originally filed specification show the criticality of the amount of oil and cure vis-à-vis the granulate properties. In this regard, it can be seen from Examples in Table 1 on page 9 of the originally filed specification that an increase in the amount of oil content occurs from a ratio of 2.1/1 (Example I) to 2.5/1 (Example II) to 3/1 (Examples A, III and IV).

The antiblocking and surface roughness properties of Examples I and II as reported in Table 2 on page 10 of the originally filed specification are excellent.

In the series of Examples A-III-IV, while the amount of oil remains constant (i.e., a ratio of 3/1), the amount of phenolic resin vulcanizing agent increases from 0.3 phr (Example A) to 0.8 phr (Example III) to 1.4 phr (Example IV). The amount of cure in Example A is too low, while for Example III it is marginally acceptable, whereas for Example IV the amount of cure is completely acceptable. A similar analysis can also be made of the data with respect to the surface roughness property.

Therefore, based on this data, one can extrapolate that more phenolic resin would eventually lead to course particles that cannot be further processed. Contrary to the Examiner's assertion, therefore, one cannot "obviously" conclude from the teaching of Dozeman et al that merely increasing the oil content would lead to acceptable properties as defined in the applicants' pending claims.

Withdrawal of the rejections under 35 USC §103(a) based on Dozeman et al is therefore in order.

3. Fee Authorization

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140.

Respectfully submitted,

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